

REMARKS

Claims 15-53 are pending in the application, with claim 44 cancelled. The examiner had also objected to claims 18, 19, 38, 39, 48, and 49, as being dependant upon a rejected base claim, but were noted to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants thank the examiner for this indication of allowable subject matter. For the reasons set forth in the discussion below, applicants believe that the independent claims from which they depend are allowable, thus the above referenced claims are submitted to be allowable in their present form. Applicants respectfully request that the objections be withdrawn.

Applicants believe that none of the references, either alone or in combination, teach or suggest all of the limitations of the independent claims, claims 15, 16, 17, 23, 24, 34, 45, 46, 47, 50, and 51. Applicants respectfully submit that the remarks and arguments overcome the rejections based on the art of record.

Withdrawal of Finality of Office Action

Applicants respectfully request that the Examiner withdraw the finality of the previous office action. As noted in section MPEP 706.07(a), "Under present practice, second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement..." Here, at least as to claims 16 and 46, the Examiner has introduced new grounds for rejection that have not been necessitated by any amendment by applicant. More specifically, in the last Office Action the Examiner had indicated the allowability of Claims 16 and 46, among other allowable claims. No changes were made by applicant to claims 16 and 46 in the amendment filed on April 23, yet the claim is now rejected on new art (i.e., Gibbs and Tanner). Withdraw of the finality is respectfully requested.

Claim Rejections Under 35 U.S.C. §103

Claims 15, 16, 17, 23, 24, 28, 30, 34 and 40 were rejected under *35 U.S.C. §103* as being unpatentable over applicant's admitted prior art (page 2, line 23; Figure 8) in view of Tanner Jr. et al. (U.S. Patent 6,307,941). Further, the examiner rejected claims 16, 20, 26, and 36 under *35 U.S.C. §103* as being unpatentable over applicant's admitted prior art, in view of Tanner, Jr. et al., in further view of Gibbs, et al (U.S. 5,901,232). The examiner rejected claims 17 and 47 under 35 USC 103(a) as being unpatentable over applicant's admitted prior art, in view of Tanner Jr. et al., in further view of Raydon, et al (U.S. 3,969,588).

For at least the reasons set forth below, applicants respectfully disagree. Claim 15 includes a limitation that the magnitudes of the right channel and left channel are chosen, each based on a distance from the sound source to the respective one of the right and left ears respectively of the listener. This limitation is not taught or suggested in the art of record. In particular, applicant disagrees with the examiner's characterization of Tanner, Jr. The examiner discusses on page 4 of the office action Tanner's teachings as to inter-aural time difference (ITD) and inter-aural intensity difference (IID). The examiner then concludes that, "The ITD is indicative of distance of sound source with respect to the listener's ears and therefore indicative of magnitude." This conclusion is different from the teachings of Tanner and hence the conclusion that Tanner reads on "choosing respective values for magnitude of said left and magnitude of said right signal to provide cues for perception of a distance of said source position from said preferred position at said given time" fails as well. Applicant believes that the Examiner may have intended to indicate that the ITD is indicative of direction of the sound source with respect to the listener. Indeed, using an ITD to provide cues to perception of a direction of said source is one of the limitations of claim 15

More specifically, applicant believes that the Examiner is misinterpreting Tanner's discussion of position from spatial cues to mean distance. Tanner makes no mention of the term "distance" other than in an unrelated discussion of crosstalk cancellation in column 2. Instead, all indications point to Tanner's discussion of position as referring to an angular position from the listener. For example, in a further discussion of FIG. 1, Tanner describes the spatial shift signal as a direction specific impulse

response associated with the desired location of the virtual sound source (col. 4, lines 48-63). See also col. 6, lines 50-55 and col. 10, lines 55-60 for similar direction specific context applied to the spatial shift signal.

To be sure, Tanner Jr. discusses modulating spatial cues of an audio signal to increase clarity and perceived localization (abstract). But again, Tanner gives no indication that this refers to anything but angular position. Tanner describes the modulation of the spatial cue as having the effect of "moving" the position of the virtual sound source relative to the head of the listener by changing the range of cues below a perceptible level. There is no teaching or suggestion that any of the modulation performed involves choosing respective values of magnitude for the channels to provide cues for perception of distance or choosing the respective magnitudes of the left and right channels on the distance from the source to the respective ears, as required by the limitations of claim 15.

These distinctions are important because, for example, as disclosed in the specification, for the near field effect, close proximity sources show higher or lower gain increases for one ear than do similar far sources (of similar azimuth) for equal angular movement. Raydon and Abel have been cited respectively by the examiner for teachings relating to lookup table and crosstalk cancellation limitations. None of them teach or suggest the specific determinations of magnitude based on the respective source to ear distances of the listener. In view of the foregoing discussion, the rejection of claim 15 over the art of record is believed overcome.

Independent claims 17, 23-24, 34, 45, 47, and 50-52 contain a distance limitation similar to that presented in claim 15. Thus, for at least the same reasons as discussed relating to claim 15, applicants submit that these claims are in allowable form. That is, none of the art of record specifically teaches or suggests using these distances to modify the respective magnitudes.

Claims 18-22, 25-33, 35-43, 48-49, and 52-53 are dependant claims and are submitted to be allowable for at least their dependencies from an allowable claim. Moreover, the dependent claims recite additional limitations, and are therefore allowable

for these reasons as well. Further discussion of these distinctions is believed unnecessary in light of the distinctions discussed above relative to the independent claims.

The arguments presented in the remarks section of this amendment are believed to provide an adequate response for asserting the allowability of all of the presently pending claims in this present application. To the extent that the applicant has not addressed some issues raised by the Examiner in the Office Action, applicant believes that such unaddressed issues do not require a response at the present time since allowability of the claims has been asserted by the applicant based upon other grounds. However, applicant's lack of response to any of the issues raised by the Examiner does not constitute an admission by the applicant as to the accuracy of the Examiner's assertions with respect to such issues. Applicant specifically reserves the right to respond to such issues at a later time during the prosecution of the present application, should such a need arise.

Conclusion

Accordingly, it is submitted that all issues in the Office Action have been addressed, and withdrawal of the rejections is respectfully requested. Applicants believe that this application is in condition for allowance, and respectfully request a prompt passage to issuance. If the Examiner believes that a telephone conference would expedite the prosecution of this application, he is invited to contact the Applicants' undersigned attorney at the telephone number set out below.

Respectfully submitted,



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